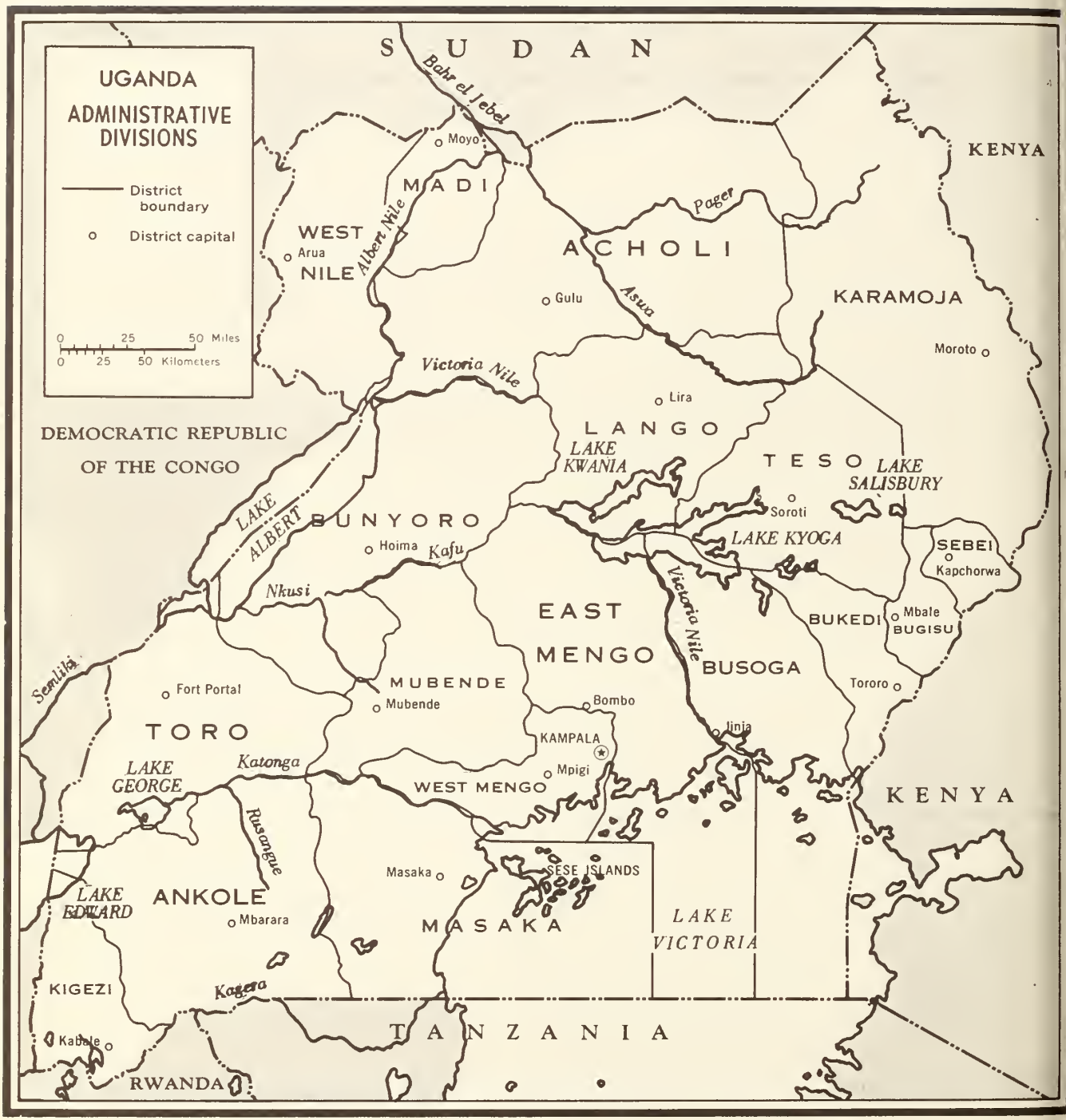
COTTON IN UGANDA


UGANDA
ADMINISTRATIVE DIVISIONS
District boundary
District capital
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SUDAN
Bahr el Jebel
Moyo
KENYA
MADI
WEST NILE
Arua
Albert Nile
Pager
ACHOLI
Gulu
Asua
KARAMOJA
Moroto
Victoria Nile
Lira
LANGO
LAKE KWANIA
TESO
LAKE SALISBURY
Soroti
DEMOCRATIC REPUBLIC OF THE CONGO
LAKE ALBERT
BUNYORO
Hoima
Kafu
LAKE KYOGA
SEBEI
Kapchorwa
Nkusi
EAST MENGO
Victoria Nile
BUKEDI
Mbale
BUGISU
Semliki
Fort Portal
MUBENDE
Mubende
Bombo
BUSOGA
Tororo
TORO
KAMPALA
Jinja
LAKE GEORGE
Katonga
Mpigi
WEST MENGO
KENYA
Rusangue
Masaka
SESE ISLANDS
LAKE EDWARD
ANKOLE
Mbarara
MASAKA
LAKE VICTORIA
KIGEZI
Kagera
TANZANIA
Kabale
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FOREWORD

Cotton is a major crop in Uganda. It is important as a source of income for the many farmers who produce it, as a raw material for the domestic textile industry, and as a source of foreign exchange.

This publication is another in a continuing series of reports on competitive developments in foreign cotton-producing countries. It is intended to help U.S. cotton interests evaluate the significance of developments in Uganda as they may affect the world cotton economy and the export outlook for U.S. cotton. In part, this study updates Foreign Agriculture Report No. 117, *Cotton Production in Africa,* February 1960.

The authors wish to express their thanks to the many persons who generously contributed to this study by providing information on the cotton economy of Uganda and by reviewing the manuscript. Special recognition is due Howard A. Akers, former U.S. Agricultural Attaché to Kenya with reporting responsibility for Uganda; William L. Davis, who currently occupies that post; and Don Anderson, president of Beltwide Cotton Producers, Plains Cotton Growers, Lubbock, Texas, who traveled and worked in Uganda with one of the authors during June 1969.

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Acting Director, Cotton Division

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COTTON IN UGANDA

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SUMMARY AND CONCLUSIONS

Cotton is an important crop in Uganda, and the country's second Five-Year Plan calls for cotton to play an important role in its continued economic development. The goal is for production by 1971 to reach the equivalent of 479,000 bales (480 lb. net weight), an increase of 29 percent over the recent production record of 371,000 bales in 1965-66.

New and improved varieties have been developed in Uganda, and their introduction will soon be complete. Despite careful and effective research and sincere efforts by government extension personnel to encourage farmers to adopt improved cultural practices, much of the crop is nevertheless planted too late to achieve best results under normal weather conditions, and other cultural practices lag far behind recommendations. Thus, although the potential exists for increased yields, production, and profitability for cotton producers in Uganda, it appears doubtful that farmers will change their past practices and adopt new techniques fast enough to reach the 1971 goal.

In terms of costs and returns, the major cost component in cotton production—under the prevailing system of cotton culture—is unpaid family labor. In a study of several cotton farms made a few years ago—but still believed to be generally representative—the output of all crops had an aggregate value of $188 per farm, of which $77 represented the value of crops used by the farm family and $111 products sold. About $84 of this was the value of the cotton raised on 5.6 acres. In order to produce this $84 of cotton, unpaid family labor was used to the extent of 195 man days and hired labor to the extent of 63 man days. This hired labor was normally paid with farm products, including homemade beer. Other expenses averaged $14 per farm for the entire crop production on the farms, but the cotton portion of this cost item is not shown separately. From this, it is evident that cotton absorbed a lot of man labor that may have had no better use, but the wage rate represented by the cotton crop was indeed very modest.

Exports of raw cotton from Uganda now account for about seven out of eight bales produced. The 242,000 bales exported in 1968-69 were divided among 20 countries. The largest customer was Hong Kong, with 55,000 bales. This was followed by India, with 29,000 bales; Japan, with 28,000 bales; and West Germany, Canada, Australia, and the Netherlands, with from 23,000 to 18,000 bales each.

Uganda's cotton textile industry has continued to develop despite the fact that some loss in export markets to neighboring countries has caused a moderate cutback in cotton mill consumption. Mill consumption is now averaging about 40,000 bales per year, about one-eighth of total raw cotton production. Even though the mill industry is not large, it produces a variety of constructions and patterns.

Regardless of the keen interest on the part of public officials in seeing cotton production expanded and the real potential that exists for a dramatic increase if farmers quickly adopted the various improved practices being recommended, it appears unlikely that the rate of progress will be rapid. If one eliminates from consideration the effects of abnormally good or bad weather, the general trend in production probably would not exceed a growth of more than perhaps 5 percent per year over the next 5 years. In fact, it is by no means certain that there will be a perceptible increase, but it appears safest to assume that there will be a modest gain and that most of the increase will be reflected in larger export availabilities.

THE RAW COTTON INDUSTRY

Importance and Scale of Operation

Cotton ranks second to coffee in order of total value among Ugandan crops. It provides Uganda with approximately 30 percent of its export earnings, again ranking second to coffee, and about 60 percent of the total population of the country receives some income from cotton. It is grown almost exclusively by small farmers. According to census information for 1966-67, about 653,000 holders were planting cotton. They had 1.4 million acres of cotton in 1.9 million plots. The average plot was about 0.7 acres, and the average holder growing cotton had about 2.1 acres of cotton. Seventy-one percent of the plots were listed as pure cotton; in the mixed cultures it was presumed that cotton predominated, since such was the case in the previous census. In total, cotton was grown by about 74 percent of the holders. Prevailing opinion of individuals with whom scale of operation was discussed suggested that the average cotton area per holder may be closer to 1.0 acre than to 2.1 acres, but regardless of which figure is the more realistic, the fact remains that almost all cotton in Uganda is grown by small farmers on small plots under raingrown conditions.

Competitive Crop Relationships

In the higher rainfall areas, cotton has a number of effective competitors, especially coffee. As a result, cotton has been diminishing in both actual and relative importance. Buganda, which accounted for about 879,000 acres or

Table 1.–COTTON: Acreage in Uganda by zones and regions crop year 1962-63 to date[1]

Zones and regions	1962-63	1963-64	1964-65	1965-66	1966-67	1967-68	1968-69
	1,000 acres	*1,000 acres*	*1,000 acres*	*1,000 acres*	*1,000 acres*	*1,000 acres*	*1,000 acres*
Buganda:							
Mengo	182	164	189	185	147	122	95
Masaka	24	27	23	25	21	21	16
Mubende	72	70	81	55	55	46	31
Total	278	261	293	265	223	189	142
Western:							
Bunyoro	51	57	74	76	86	95	85
Kazinga Channel	20	23	20	16	24	25	28
Total	71	80	94	92	110	120	113
Eastern:							
Busoga	467	510	501	578	550	418	416
Mbale	348	320	415	497	380	404	374
Teso	170	293	292	237	323	394	389
Teso Segregated	29	38	39	37	36	36	37
Usuku	24	25	28	27	35	37	26
Total	1,038	1,186	1,275	1,376	1,324	1,289	1,242
Northern:							
Lango	191	196	209	210	216	133	208
East Acholi	92	108	79	110	97	146	87
West Acholi	70	71	64	82	70	44	57
West Nile	64	112	124	139	134	154	110
Total	417	487	476	541	517	477	462
Grand total[2]	1,803	2,014	2,138	2,262	2,174	2,144	1,959

[1] See section on cotton acreage estimates.
[2] Totals of zones do not always agree with grand total.

Source: Official reports of the Agriculture Department and Lint Marketing Board, Republic of Uganda.

50 percent of the cotton acreage in 1937, had an average of only 339,000 acres or 19 percent of the acreage in the 5-year period 1958-59 through 1962-63. In 1968-69 Buganda's acreage was 143,000 acres or 7 percent of the national total.

Cotton has fewer competitors as a cash crop in dryer areas, but does find some competition from food crops for both land and labor. In the former Eastern, Western, and Northern regions, cotton has increased through time, both in terms of acres and in terms of shares of the national acreage. For the most part, food crops are grown for the farmer's own subsistence although such part of any production over and above the family needs may be sold locally. The marketing system for such surplus food products is not as well developed as is the system for cotton, and they normally move through local village markets on a sale or barter basis or are sold to Indian merchants at the nearest town.

Finger millet is an important crop and is the major raw material used for the local brewing of beer, which is widely used by farm households and as payment for hired labor. In fact, payment in this and other farm products is far more common than is a cash wage for hired farm labor. In the lower rainfall cotton areas, peanuts appear to be the crop most likely to give cotton competition as a cash crop should cotton prices fall drastically. However, at most times in the past and at present the price relationships favor cotton.

In deciding what crops to grow, the typical farmer may be influenced in part by the ease and cost of obtaining planting seed since this must be done well ahead of the time that the income is received. Since cotton is sold by the farmer as seed (unginned) cotton, the seed passes out of his hands and must be obtained each year, but it is made available without charge. Seed for competitive crops is either saved by the farmer from his own production or is

Table 2.–COTTON: Production in Uganda by zones and regions, crop year 1962-63 to date

Zones and regions	1962-63	1963-64	1964-65	1965-66	1966-67	1967-68	1968-69
Buganda:	*1,000 bales*[1]	*1,000* bales[1]	*1,000 bales*[1]	*1,000 bales*[1]	*1,000 bales*[1]	*1,000 bales*[1]	*1,000 bales*[1]
Mengo	42	31	45	46	36	27	24
Masaka	3	3	3	5	5	3	2
Mubende	12	10	11	9	8	7	10
Total	57	44	59	60	49	37	36
Western:							
Bunyoro	9	10	11	17	20	18	17
Kazinga Channel	6	6	6	2	6	5	9
Total	15	16	17	19	26	23	26
Eastern:							
Busoga	77	68	80	70	80	51	52
Mbale	49	52	58	56	45	31	47
Teso	17	36	38	39	45	{32	38
Teso Segregated	6	7	8	10	9		6
Usuku	2	5	4	4	5	2	3
Total	151	168	188	179	184	116	146
Northern:							
Lango	34	42	48	52	46	57	60
East Acholi	12	14	14	17	13	{32	17
West Acholi	12	14	12	18	10		18
West Nile	18	18	27	26	28	20	40
Total	76	88	101	113	97	109	135
Grand total	299	316	365	371	356	285	343

[1] Bales of 480 lb. net.

Source: Compiled from official reports of the Agriculture Department and Lint Marketing Board.

Table 3.–COTTON: Yield of lint per acre in Uganda by zones and regions, crop year 1962-63 to date[1]

Zones and regions	1962-63	1963-64	1964-65	1965-66	1966-67	1967-68	1968-69
	Pounds[2]	*Pounds*[2]	*Pounds*[2]	*Pounds*[2]	*Pounds*[2]	*Pounds*[2]	*Pounds*[2]
Buganda:							
Mengo	110	92	114	119	118	107	121
Masaka	57	49	72	88	101	64	75
Mubende	79	72	67	82	67	76	155
Total	97	82	98	108	104	94	123
Western:							
Bunyoro	85	80	71	105	112	90	96
Kazinga Channel	146	117	142	74	125	97	156
Total	102	90	86	100	115	91	111
Eastern:							
Busoga	79	64	77	58	70	59	60
Mbale	67	79	67	54	57	37	60
Teso	49	59	62	78	66	35	47
Teso Segregated	105	87	104	126	113		78
Usuku	46	94	64	65	71	28	50
Total	70	68	71	62	67	43	56
Northern:							
Lango	85	103	110	120	101	207	138
East Acholi	59	63	84	74	65	80	92
West Acholi	83	96	86	108	70		153
West Nile	137	78	104	91	100	62	174
Total	87	87	101	101	90	109	140
Grand total	79	75	82	79	79	64	84

[1] See section on cotton acreage estimates. [2] Based on rounded acreage data and unrounded production data.

Source: Official reports of the Agriculture Department and Lint Marketing Board.

purchased. According to a notice issued by the Ugandan Department of Agriculture, the Seeds Manager at Masindi offered improved planting seed of peanuts (groundnuts), corn (maize), beans, and sorghum. Sufficient improved seed to plant an acre cost $15.40 for peanuts, $1.82 for corn, $6.16 for beans, and $0.70 for sorghum. Even though unimproved seed of these crops might be purchased at lower cost than that of improved varieties, the fact remains that cotton acreage may benefit from the availability of free planting seed.

For many years when the producer price was stabilized rather than being allowed to fluctuate with prices in other countries, world prices naturally had little effect on production. Since the Price Assistance Fund was exhausted, however, and the present policy of equating prices to the grower with world market prices was adopted, there has been some evidence that Ugandan farmers have become somewhat responsive to changes in cotton prices.

Cotton Acreage Estimates

Census data on cotton acreage in Uganda run much lower than the cotton acreage figures of the Ministry of Agriculture. There appears to be a general feeling that the Ministry of Agriculture figures are in fact too high and the yield per acre data derived therefrom are too low, but there is no apparent consensus on the extent of the error. It is generally hoped that the next census will provide a firm statistical base for the cotton acreage figures. Meanwhile, the reader is asked to use acreage and yield per acre data with considerable reserve.

In fact, there is a belief on the part of some that the unintentional overestimation of cotton acreage and underestimation of year-to-year changes in cotton acreage tend to obscure the extent to which Ugandan farmers

Above, a farmer's field is custom plowed to prepare the land for the planting of cotton; this government service costs the farmer about $6.30.

Above, bolls of cotton are picked at the end of the season. Right, following the harvest, the cotton plants are gathered together in the field and burned as a means of controlling damage by insects.

Below left, a typical patch of cotton on a single family's compound of huts; right, field of cotton at a mission school where students are taught improved farming methods using ox cultivation.

respond to changes in cotton prices. The unintentional overestimation of cotton acreage is believed to inject considerable error into yield estimates in any given year and in the trend in yields. It is also reported that many farmers fail to pick their entire crop and that this is a serious problem in some years. This practice can also have a depressing effect upon production and yield estimates.

Varieties

Cotton research in Uganda is far ahead of general farm practices. Higher yielding upland varieties with good fiber characteristics have been developed by the research workers at the Namulonge Cotton Research Station and the Serere Research Station, and the cotton economy has benefited accordingly. The Ugandan variety BP52 is being replaced by BPA, which reportedly meets the specialized quality of a BP52-type while retaining the blight resistance and heavy yields of Albar. Four seasons of district variety trials showed BPA outyielding BP52 by an average of 22 percent. It is expected that under commercial conditions BPA will have a staple length of from 1-1/8" to 1-7/32", which compares with 1-1/16" to 1-3/16" for BP52. The modal staple length is 1-3/16" for BPA, compared with 1-1/8" for BP52. The micronaire of BPA ranges from 3.3 to 4.5, compared with 2.8 to 3.8 for BP52. Fiber strength and yarn appearance are similar for the two varieties. Yarn strength of BPA is slightly weaker than yarns of BP52.

The variety S47 has given way to SATU (Serere Albar Type Uganda) which was released in 1964. SATU is highly resistant to bacterial blight and has the capacity for producing high yields. In district variety trials SATU averaged 30 percent higher yields of seed cotton than did S47. Also, the ginning percentage of 35.7 for SATU exceeded the 33.0-percent outturn of S47. These test levels exceed the levels that are reasonably expected under normal farming conditions, but the indicated differential in favor of SATU is reportedly maintained under normal farming conditions. SATU and S47 are both described as having a staple length ranging from 1-1/16" to 1-1/8" and a modal length of 1-3/32". The micronaire of SATU ranges from 3.6 to 4.8; this is higher than S47, which ranges from 3.1 to 3.8. The fiber strength of SATU is considered similar to that for S47. The general absence of chalazal cap from the seed coat in SATU represents a distinct improvement over the older S47, and yarn appearance is therefore improved while yarn strength is maintained.

As a result of variety tests in various areas, the variety boundaries for the new varieties will be altered. It was decided that SATU should replace BP52 in the West Nile zone and that BPA should be grown in the Mbale zone. Thus, when the transition is complete, BPA will be grown south of the line formed by the Victoria Nile, Lake Kyoga, and the northern boundary of the Mbale zone, while SATU will be grown north of this line.

The seed supply of the new varieties has already become sufficient for SATU to replace all S47, and in 1970-71 the changeover to BPA will be completed. Farmers are quick to obtain the results of improved varieties once multiplication permits them to obtain seed although, even here, planting too many seeds in a hill and failure to apply practices that would raise yields retard the speed with which a new variety is introduced relative to what could be the case if farmers followed recommended practices.

Breeding work continues to place importance to increasing yields with concomitant improvement in quality, particularly increased yarn strength and yarn appearance. Regular screening is made for resistance to bacterial blight, and increased attention is being given to resistance to other diseases—especially *verticillium* wilt.

Insect Control

The basic insecticide recommendation for most Uganda cotton areas is four sprayings with DDT at intervals of 2 weeks. It is recommended that spraying start when cotton has been up from 5 to 8 weeks. DDT has been found to be the best insecticide for the control of bollworm and cotton lygus, and it is reported that it also gives quite good control of spiny bollworm. The DDT is packaged in tins that hold enough to spray a typical 1-acre plot four times.

Although some people expressed the belief that perhaps as many as half of the cotton farmers use insecticides, the number may in fact be smaller. The 1967-68 census indicated that two-thirds of the farmers used no insecticides and that most farmers who did spray their cotton did so only once. The *Agricultural Newsletter* for March-April 1968, in describing the Cotton Insecticide Subsidy Scheme for 1968-69, stated that 283,000 tins of DDT would be available. It went on to say that the farmer would pay only 5 shillings per tin, which is equivalent to $0.70, and that the government had paid the manufacturer 19.5 shillings or $2.73 per tin. The probability exists therefore that

considerably less than 283,000 acres might be subjected to effective insecticide application since applying inadequate amounts of insecticide to a larger total acreage reduces the effectively treated area from a given volume of material.

Profile of Cotton Farms in Teso District

Although conditions may have changed slightly, it is believed that a reasonable view of the present farming situation in Uganda can be obtained from a study made several years ago of some cotton farms in the Teso District of the eastern region even though the sample farms were larger than most farms. The farms in the sample for that study ranged in size from 12 to 33 acres and averaged 23 acres, of which 17 acres were in annual crops. The farms had an average of 5.6 acres of cotton, 4.2 acres of finger millet, 2.7 acres of mixed sorghum and finger millet, 2.3 acres of peanuts. 1.3 acres of late sorghum, 0.6 acres of early sorghum, and 1.3 acres of cowpeas. The labor-force averaged 6.2 adult units. The average total labor requirements on the farm were 811 man days, of which 564 represented family labor and 247 hired labor. Cotton used 46.0 man days per acre, of which 34.7 were family and 11.3 were hired. Peanuts required 48.4 days per acre and other crops took less than one-half these levels.

Output of crops had an aggregate value of $188.30 per farm of which $76.72 represented value of crops used by the family and $111.58 products sold. Purchased inputs averaged $33.74, of which $20.16 represented hired labor and $13.58 other expenses. As pointed out earlier, much of the hired labor was paid for with beer, other farm products, or an exchange of labor. From this, it is evident that a very large share of any input or derived cost of production represents unpaid family labor. The value of gross output per acre was $14.98 for cotton $7.98 for peanuts, $6.44 for finger millet, and much less for other crops.

Farm Practices

By contrast with the relative speed with which farmers derive benefits from new and improved varieties, farmers are slow to adopt the findings of other types of research–especially where to do so would mean that they as farmers would have to change their customary farming practices. Progress in adopting the results of research in cultural practices appears to have been especially slow despite the almost dramatic results that have been evident both at the experiment stations and in the demonstration plots on typical farms throughout the farming areas. For years, the research workers have known the benefits that would flow from early planting, proper spacing, and early thinning–practices that involve virtually no cash outlay and yet, in the typical fields observed in the early planting areas before mid-June 1969, cotton had 6 or 8 leaves and had not been thinned; whereas, in the few fields in which recommended practices–including fertilization–had been followed, the crop was knee high or higher and was

Table 4.–Percentage distribution of cotton plantings in Uganda by regions and months, 1964-65

Month	Buganda	Western	Eastern	Northern	Total Uganda
	Percent	*Percent*	*Percent*	*Percent*	*Percent*
March	--	--	([1])	([1])	([1])
April	([1])	--	5	1	3
May	5	1	23	9	17
June	27	23	34	40	34
July	29	31	25	34	27
August	29	27	12	15	16
September	10	14	1	1	3
October	--	4	--	--	([1])
Total	100	100	100	100	100

[1] Less than 0.5 percent.

Source: Annual Report of the Agriculture Department, 1964, Republic of Uganda

starting to bloom. Table 4 shows how drawn out the planting season was in the various regions of the country although some allowance may need to be made for climatic variations within zones.

Government machinery stations provide a tractor-plowing service under which typical plots of about an acre are plowed for $6.30—payable in advance. Although this is higher than the $4.20 to $4.90 customarily charged by neighbors for plowing with oxen, it is only about one-half the actual cost of tractor plowing. The tractor plowing is generally limited to the initial breaking of the soil prior to planting and is considered to be a better plowing job than is ox plowing; on occasion, however, rather long delays may be encountered in waiting for the plowing to be done.

In those areas where oxen are used, which seem to center in the Teso area, it is estimated that about 80 percent of the land plowed is plowed by oxen. Elsewhere, much or all of the land is prepared almost entirely by hand. Even where initial plowing is done with oxen—or tractors—very few farmers make any additional use of ox power. Weeding, cultivation, and harvesting of all crops characteristically are done by hand. Close observers, in looking for ways to improve agriculture, realize that planting in rows and cultivating with oxen would open the way for greatly improved farming. A study made of Teso District a few years ago noted that the weeding of cereals and cotton with ox-drawn equipment would even out the peak demands for labor. Also, it would permit the timely weeding of the cereals and would facilitate the planting of cotton at the optimum date, thereby contributing to much higher yields than normally are obtained.

A part of the seeming reluctance of farmers to adopt recommended practices for cotton production may be attributable to the farming process in Uganda being more complex than has generally been assumed. The uncertainties of weather coupled with both the fear of failing to produce enough food to take care of one's own family and the substantially undeveloped marketing system for crops other than cotton would appear to exert an influence on farmers' plans. Also, the high labor commitment of the prevailing system of farming may tend to fence a farmer in to the point that he is reluctant to institute changes that must be carried out on a more or less package basis to be fully successful.

Despite the fact that farmers are slow to adopt improved practices, research work to improve the production of cotton and other crops is continuing. Efforts also are continuing to strengthen and improve the effectiveness of extension work. Thus, there is ample reason to believe that whenever the cotton producers of Uganda do become interested in improving their production of cotton or other crops, they will find it easy to obtain reliable information on what changes are most likely to prove profitable if carried out effectively.

National Policy

The Ugandan Government is interested in seeing cotton production continue to expand. In fact, as stated in its *Agricultural Newsletter* for April-May 1969, "Farmers are therefore strongly urged to step up their production of cotton in order to enable Uganda to achieve her national target of producing 575,000 bales of cotton next year." Although this target is in terms of bales of 400 pounds, this level would represent 479,000 standard bales, an increase of 29 percent over the recent production record of 371,000 bales in 1965-66. The official government report on the second Five-Year Plan stated, "The planned growth in cotton output is considerable and because of the relative importance of cotton, it is one of the key targets for the achievement of the overall plan goals." The report goes on to note that the large increase in cotton production will be mainly through greater productivity on existing acreages.

Toward achieving greater yields, the government is continuing its efforts to improve varieties and to determine production practices that are relatively easy for small farmers to adopt and which, if adopted, would result in significant increases in yields. Uganda also is encouraging improved practices by providing tractor plowing and insecticides on a subsidized basis; providing free planting seed; developing a credit system that will help farmers raise funds needed for capital investment or operating needs i.e., to buy oxen, farm equipment, fertilizer, or insecticides or to hire labor; and by providing more trained agricultural workers to do extension work in farming communities.

Prices and marketing

It is the government's declared intention to equate prices to growers to the level of world market prices. The price paid to the farmer can be expected, therefore, to bear a reasonably close relationship to the expected world

price for cotton, with appropriate allowances for ginning, transport, and marketing. If, in any given year, the Lint Marketing Board sustains a loss, the Treasury makes up the difference. Similarly, any profits are remitted to the Treasury. There have been years, however, when the price was consciously set higher and the Lint Marketing Board, which held a fund that had been built up during previous periods of high world prices, sustained an intentional loss. In the latter periods, producer prices were deliberately held below the expected level of world prices and the financial reserves of the Lint Board were thereby augmented. Such a pricing practice reflected a deliberate effort to hold a level of prices that was as stable as possible. The system reflected the belief that the producer benefited more over the long run from price stability and various services rendered by the Board and paid for with income that had been retained than he would have from a remittance that fluctuated from year to year.

All Ugandan cotton is picked several times by hand and carefully sorted to remove all leaf trash that can be removed easily and to divide the cotton into two grades, AR and BR. This combined operation is especially time consuming as currently performed. The AR cotton is described as "first-quality unstained" cotton and the BR cotton is described as "second-quality stained lint." Stripper-damaged cotton and any other defective lint are included in the BR category.

The sorted cotton is carried in bundles to the local buying station, where it is weighed and paid for at the prescribed price of the particular variety of AR or BR cotton, as the case may be. The local buying station enters the cotton into its stores, from which it is bagged for trucking to the cooperative gin serving the particular area. 1968-69 was the first season in which cooperative gins handled the entire crop.

The transition of the ginning industry—which has all roller gins—from predominantly private firms to cooperatives took place in a matter of only a few years. Even where the same managers may have been retained, the extensive enlargement and modernization programs undertaken often confronted managers with types of operations that lay outside their range of experience. Thus, operating efficiency in many of the 52 gins may be well below desired levels. In fact, the efficiency of gin operation may need to rise a good bit, or wider margins may need to be

Table 5.—Purchase price to producers for cotton in Uganda, AR-BP 52 [1]

Season	Seed cotton	Lint [2]
	Ugandan cents per lb.	*U. S. cents per lb.*
1948-49	30.00	12.86
1949-50	33.00	14.14
1950-51	45.00	19.29
1951-52	50.00	21.43
1952-53	50.00	21.43
1953-54	45.00	19.29
1954-55	47.00	20.14
1955-56	50.00	21.43
1956-57	50.00	21.43
1957-58	52.00	22.29
1958-59	46.00	19.71
1959-60	40.00	17.14
1960-61	46.00	19.71
1961-62	52.00	22.29
1962-63	56.00	24.00
1963-64	51.00	21.86
1964-65	57.00	24.43
1965-66	60.00	25.71
1966-67	40.00	17.14
1967-68	45.00	19.29
1968-69	50.00	21.43

[1] Purchase price first announced; the level was frequently increased later in the season. [2] Converted on the basis of one-third lint.

allowed, or some combination of the two may be necessary if some of the cooperative gins are to achieve and maintain a sound financial footing.

When ginned, the lint and seed are sold by the gin to the Lint Marketing Board at a price that compensates the gin for its function. The Lint Marketing Board is responsible for selling the lint to mills and cotton merchants. The seed not needed for planting is sold to oil mills. The Lint Marketing Board has a number of ginning and lint inspectors who work with the gins to insure that the quality of cotton is kept as high as possible. The cotton bales are classified into one of five categories on the basis of the quality of ginning. They are also checked for particular ginning defects. The price the ginner receives for the bale of cotton therefore reflects the price paid the farmer for the seed cotton, the costs of getting the cotton to the gin, the ginning itself, and other services rendered by the gin. The ginner may also qualify for a premium or discount under the Lint Board's incentive schemes. All AR cotton is sold in lots of 250 bales. Except at the end of the ginning season, these lots are consecutive running bales from a single gin. Such a description of lots by bale number and gin location enables buyers at the Kampala auction to draw upon their knowledge of the quality of cotton being handled by the various gins at any given time if the auction takes place after the cotton has been ginned. If it is a forward sale, the buyers know the general reputation of cotton from the particular growing area.

A grade of Ugandan cotton known as the "selling standard" forms the basis of sales between the Lint Marketing Board and cotton buyers. This "selling standard" is described as being equivalent to the U.S.A. universal standard of middling. The Board's classifiers class the cotton into one of the lint grades that are a part of the Uganda Classification System. Buyers of cotton classified as inferior to selling standard are compensated for the shortfall on the basis of allowances set up by a "difference committee."

Exports of Raw Cotton

Uganda has been an important exporter of cotton for many years. Its BP-52 and now its BPA represent long staple cottons that fall just below the shorter Egyptian varieties and above the rank-and-file of upland cottons. Prices of these cottons are on occasion influenced by the relative supply and demand situation for both the longer staple upland type cottons and the extra-long staple barbadense types. The direction of exports also reflects these interrelationships.

Table 6.–COTTON: Exports from Uganda to specified countries, calendar year average 1955-59, year beginning August 1, 1960 to date

Country	Average 1955-59	1960	1961	1962	1963	1964	1965	1966	1967	1968
	1,000 bales[1]	*1,000 bales*[1]	*1,000 bales*[1]	*1,000 bales*[1]	*1,000 bales*[1]	*1,000 bales*[1]	*1,000 bales*[1]	*1,000 bales*[1]	*1,000 bales*[1]	*1,000 bales*[1]
Hong Kong	20	22	9	33	35	31	26	41	16	55
India	134	93	120	49	65	76	31	53	37	29
Japan	38	5	3	19	16	15	25	43	36	28
Germany, West	54	53	34	34	38	25	30	37	34	23
Australia	(2)	--	--	(2)	3	3	10	14	19	20
Canada	--	--	--	--	(2)	11	--	20	(2)	19
Netherlands	6	6	6	12	5	7	9	34	30	18
United Kingdom	18	7	8	5	10	8	18	16	20	15
China, Mainland	3	56	(2)	30	75	117	56	17	30	7
Israel	(2)	--	--	5	7	9	13	20	11	6
Italy	8	14	15	14	5	4	22	26	3	2
Ceylon	2	1	2	3	6	5	6	3	1	1
Belgium	4	(2)	1	(2)	1	1	10	18	7	--
Others countries	10	7	21	3	26	26	21	13	10	19
Total	297	264	219	207	292	338	277	355	254	242

[1] 480 lb. net. [2] Less than 500 bales.

Source: Annual Trade and Revenue Report of Uganda and other sources.

Uganda's shorter cotton has followed the pattern of other cottons with similar staple length. Indications are that the shorter variety has typically been used for blending with other growths that are relatively weak, thereby adding strength to the yarn in which it is incorporated.

Traditionally, India was the major market for Ugandan cotton, and the United Kingdom was the second largest customer. During the years 1945 through 1956, these two countries accounted for between 62 and 99 percent of Uganda's cotton exports.

Partly as a result of the marked weakening of the market for Ugandan cotton in India in 1957, firms exporting Ugandan cotton broadened their marketing efforts, and the combined Indian-United Kingdom share has since fallen to between 58 and 18 percent of Uganda's exports.

In the latest year for which data are available, the crop year 1968-69, Hong Kong was the major destination, with 55,000 bales (480 lb. net weight) out of a total export volume of 242,000 bales. This was followed by India, with 29,000; Japan, 28,000; West Germany, 23,000; Australia, 20,000; Canada, 19,000; Netherlands, 18,000; and the United Kingdom with 15,000 bales. Thus, Uganda's cotton exports are now widely distributed.

THE COTTON TEXTILE INDUSTRY

Uganda has had a cotton textile industry since the mid-1950's. The third mill started operation in 1968, and a fourth one is being considered. Mill consumption first pushed above 20,000 bales per year in 1960-61 and reached as high as 45,000 bales in both 1965-66 and 1966-67. It has since amounted to 40,000 bales per season, the reduction being partly attributable to reduced exports of textiles to Tanzania, which has established its own textile industry and is giving it some protection. Leaders in Uganda expect that the consumption of cotton textiles will continue to rise and that the textile industry will thereby benefit from the increase in consumption. It appears reasonable to expect such developments, but in terms of bales of cotton, the changes are unlikely to be dramatic. Further gains in mill consumption will be more moderate than in the past when much of the increase was replacing imported textiles. Nevertheless, local mill consumption of raw cotton should be a small plus factor in Uganda's total cotton economy.

Table 7.–COTTON: Supply and distribution in Uganda, 1955-69[1]

Season[1]	Stocks August 1	Production	Total supply	Consumption[2]	Exports
	1,000 bales[3]	*1,000 bales*[3]	*1,000 bales*[3]	*1,000 bales*[3]	*1,000 bales*[3]
1955	43	300	343	1	293
1956	49	310	359	1	265
1957	93	292	385	2	299
1958	84	334	418	2	400
1959	16	300	316	12	236
1960	68	309	377	21	265
1961	91	152	243	21	206
1962	16	297	313	25	211
1963	75	315	390	25	287
1964	78	365	443	30	339
1965	74	370	444	45	306
1966	93	355	448	45	371
1967	32	285	317	40	255
1968	22	350	372	40	242
1969[4]	90	350	490	40	350

[1] Beginning August 1. [2] Includes cotton destroyed or unaccounted for. [3] 480 lb. net. [4] Partly estimated.

Source: Official and trade statistics of Uganda and other sources.

Table 8.—Production of textile fabrics in Uganda, by types, 1960-66

Year	Cotton fabrics					Nylon fabrics	All fabrics
	Grey	Bleached	Khaki drill	Piece dyed, drill	Total		
	1,000 Sq. yd.	*1,000 Sq. yd.*	*1,000 Sq. yd.*	*1,000 Sq. yd.*	*1,000 Sq. yd.*		*1,000 Sq. yd.*
1960	2,573	555	1,907	7,573	12,608	.....	12,608
1961	4,308	486	2,210	9,149	16,153	.....	16,153
1962	9,867	1,000	2,514	10,366	23,747	.....	23,747
1963	10,422	637	2,427	12,942	26,428	.....	26,428
1964	4,441	796	3,710	17,106	26,053	.....	26,053
1965	2,413	616	3,975	18,975	25,979	.....	25,979
1966	7,866	1,104	5,031	29,016	43,017	2,000	45,017

Source: *A Study of the Market for United States Textiles in East Africa,* statistical section, by A. Lee Parsons and Maurice Loewenthal, July 1969, p. 14.

Promotion

It is noteworthy that Uganda is one of the more progressive developing countries with respect to promoting the increased use of cotton. Uganda is a member of the International Institute for Cotton and thereby helps promote increased use of cotton in the important import markets in Western Europe and Japan. The Ugandan industry also is interested in seeing its domestic market expanded on a broad front. The textile industries of many developing countries concentrate exclusively on the simpler textiles that provide the bulk of the market. Uganda, on the other hand, has had an interest in style merchandise as well as in the so-called "bread and butter" constructions. As long ago as the late 1950's, the art students at McKarrie College in Kampala were developing designs that were used for textiles to be sold in Ugandan stores.

At the time of the Twenty-Eighth Plenary Meeting of the International Cotton Advisory Committee, which was held at Kampala in 1969, a fashion show was presented. It featured a number of men's and women's apparel items made of Ugandan cotton that had been spun, woven, and printed in Ugandan mills and fashioned into garments for the Ugandan market with an effectiveness that was impressive to delegates from all over the world.